



## PATENT ABSTRACTS OF JAPAN

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(71) Applicant: NIPPON TELEGR & TELEPH  
 CORP <NTT>  
 (72) Inventor: MATSUOKA SHINJI  
 AIDA KAZUO  
 NAKAGAWA SEIJI

## (54) N-BIT MULTIPLEXING/DEMULTIPLEXING CIRCUIT

## (57) Abstract:

**PURPOSE:** To perform the quick operation in accordance with the speed of a multiplexing part even at the time of considerably changing the number of multiplexing bits or input channels by providing time slot converting circuits.

**CONSTITUTION:** Time slot exchange to take the  $i$ -th bit of each input signal of  $n$ -number of channels as the output signal of the  $i$ -th channel is performed with  $n$ -number of bits as the unit by time slot converting circuits, and multiplexing in  $n:1$  is performed in multiplexing parts, and each time slot converting circuit is allowed to correspond to a prescribed channel by an  $n$ -bit multiplexing circuit, and time slot exchange is performed with  $n$ -number of bits as the unit to convert input signals to a new  $N$ -channel signal sequence, and this new  $N$  channel signal sequence is inputted to perform multiplexing in  $N:1$ . Consequently, the conversion

processing speed is easily increased because being dependent upon only the speed of multiplexing parts though the number ( $n$ ) of multiplexing bits or the number  $N$  of input channels is increased, and the constitution of a control circuit is simplified.

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